

six construction alternatives as well as its commitment to implement fugitive dust and other mitigation measures. It is hard to understand why this same level of detail was not used to estimate the environmental impacts of criteria pollutants and HAPs during the demolition and construction phases of the project.

The agency recognizes the preliminary nature of the project design at this stage in the EIS process, but without a full evaluation of the air quality impacts from demolition and construction operations it is difficult for commenters and decision-makers to provide specific input to protect the public health, influence selection of the best alternative, and ensure compliance with state and federal Clean Air Acts. The agency has two general comments regarding the adequacy of the Draft EIS for compliance with environmental regulations and conformity regulations and a series of recommendations for the forthcoming "construction air pollution emission plan" within that context.

The agency reiterates its earlier stated position that compliance with state and federal conformity regulations does not constitute compliance with state and federal environmental regulations. In particular, demolition and construction period, diesel exhaust impacts, and mitigation must be addressed in greater detail in the EIS. Second, as stated in Appendix Q Air Quality Discipline Report, the Conformity determination will occur after selection of the Preferred Alternative, its inclusion in the Puget Sound Regional Council's Metropolitan Transportation Plan and Transportation Improvement Program and specific project level conformity analysis. That process should ensure compliance with state and federal conformity regulations. As noted, the Draft EIS does not provide sufficient information upon which to determine compliance with state and federal environmental and conformity regulations in particular because the year of peak emissions of both criteria and hazardous air pollutants have not been identified and construction period emissions and mitigation have not been adequately addressed. This is particularly important because construction activity emissions must be included in the conformity determination.

It is also important that the EIS adequately address construction period emissions and mitigation because the construction period could pose significant risks to air quality and public health. Prior to providing the agency's project and construction activity mitigation recommendations, a brief discussion of the probable health and environmental impacts associated with operating diesel powered engines is important.

Diesel exhaust is a complex mixture of thousands of chemicals.¹ Over 40 of these are listed as by the U.S. Environmental Protection Agency (EPA) as hazardous air pollutants, known human carcinogens, probable human carcinogens, reproductive toxics or endocrine disrupters. In addition, USEPA, CalEPA, and the International Agency for Research on Cancer have all reviewed the health studies pertaining to DPM, and rated the complex mixture as a probable human carcinogen.^{2,3,4} In other words, DPM as a whole is likely to cause cancer in humans. No single chemical or suite of chemicals has been identified as the cancer-causing agent in diesel particulate matter.

¹ CalEPA/OEHHA. *For the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant. Part B: Health Risk Assessment for Diesel Exhaust.* May 1998.

² CalEPA/OEHHA, 1998.

³ International Agency for Research on Cancer (IARC). *IARC Monograph on the Evaluation of Carcinogenic Risks to Humans. Vol. 46. Diesel and Gasoline Engine Exhausts.* 1989.

⁴ EPA. *Health Assessment Document for Diesel Engine Exhaust.* Office of Research and Development. EPA/600/8-90/057F.

Diesel exhaust particles carry many of the organics and metals present in the exhaust. Over 90 percent of the mass of these particles are less than 2.5 microns in diameter, commonly referred to as PM_{2.5}. Because of their small size, these particles are easily inhaled into the bronchial and alveolar regions of the lung. In 1998, the State of California declared diesel particulate emissions from diesel fueled engines a toxic air contaminant and has launched a state wide diesel risk reduction program to clean up emissions from public and private fleets operating in California.

As you may be aware, the U.S. Environmental Protection Agency's (EPA) National-scale Air Toxic Assessment study estimated diesel particulate matter (DPM) concentrations in King County.⁵ Our agency conducted a screening analysis on these DPM concentrations and over 30 other air toxics.⁶ We found that DPM poses the greatest potential cancer risk among the 30 air toxics. We also confirmed EPA's DPM predicted concentrations in a separate study with the University of Washington using local monitoring data.⁷ We calculate the potential lung cancer risk from ambient DPM at approximately 500 in a million. This potential health risk is 500 times EPA's "one in a million" acceptable risk level for Superfund sites. Because the existing ambient concentration of DPM already presents a significant health risk, any increases in DPM concentrations should be mitigated as much as possible.

In response to EPA national findings and numerous health studies indicating that diesel emissions are a significant public health risk, EPA has taken definitive action to reduce the emissions by on-road and non-road diesel engines by requiring more stringent emission standards for new engines and requiring the use of Ultra-low Sulfur Diesel (ULSD) fuels beginning in mid 2006 for on-road vehicles. The longevity of the older highly polluting diesel engines has prompted voluntary emission reduction initiatives involving transit and school bus fleets, garbage trucks and public diesel fleets and diesel construction equipment across the U.S. and throughout the world.

The prolonged construction period and close proximity to dense population areas make diesel emission mitigation necessary for this project. In addition to the health benefits, a diesel emission reduction program could substantially reduce visible smoke and diesel odor making the project more acceptable to residents, tourists, workers and local business owners.

The Puget Sound Clean Air Agency recommends that WSDOT use the diesel engine retrofit/clean fuels programs undertaken during the Central Artery/Tunnel (CA/T) Project in Boston, Massachusetts, and the I-95 construction project in Southern Connecticut as a basis to design its construction air pollution emission control plan. In the CA/T project, approximately 200 pieces of non-road equipment were retrofitted with diesel oxidation catalysts. In the I-95 project it was projected that if all the equipment with engine size over 60 HP were retrofitted, more than 98% of the emission benefits of retrofitting all equipment would be achieved.

At this point in time the agency recommends the following mitigation elements be included in the construction air pollution emission control plan:

- All diesel construction equipment should be fueled with ULSD fuel or a ULSD/biodiesel blend, and;

⁵ USEPA. *National-scale Air Toxics Assessment for 1996*. Office of Air Quality Planning and Standards. EPA-453/R-01-003. January 2001.

⁶ Puget Sound Clean Air Agency. *Puget Sound Air Toxics Evaluation*. Keill and Maykut. 2003.

⁷ Maykut N, J Lewtas, E Kim and T Larson. *Source apportionment of PM_{2.5} at an urban IMPROVE site in Seattle, WA*. Environmental Science and Technology. September 2003.

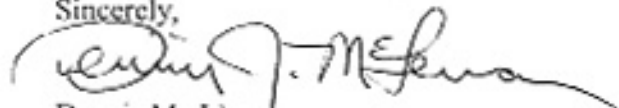
- All diesel equipment with a horse power rating of 60 hp and above that will remain on site or travel to and from the site for more than 30 days total during the entire construction period should be retrofitted with a diesel oxidation catalyst or more efficient pollution control device that is currently verified either by the EPA Voluntary Diesel Retrofit Program or the California Air Resources Board (CARB) verification process. Oxidation catalysts are sulfur tolerant and machinery equipped with them can be used off the project site and fueled with higher sulfur fuels elsewhere without damaging the catalysts, and;
- All diesel construction equipment not in active use and dump trucks that are idling while waiting to load or unload material for three minutes or more, should be turned off, and;
- Staging zones for trucks that are waiting to load or unload material at the work zone should be established in locations where diesel emissions will have the least impact on the public, and
- Construction equipment should be located away from pathways to sensitive receptors such as fresh air intakes to buildings, air conditioners, and operable windows, and;
- A compliance verification process should be developed and implemented to self-police each element of the plan.

Mitigation measures for other impacts discussed in the EIS also have air quality benefits and the agency looks forward to discussing their inclusion in the air pollution plan. The agency also anticipates recommending additional mitigation measures after additional information on construction period activities and equipment is provided.

In closing, the agency acknowledges that the conformity determination can be deferred until a preferred alternative has been selected and looks forward to reviewing it again at that time. Furthermore, the agency believes that the demolition and construction phases of the project must be conducted in a manner that limits public health risks and minimizes quality of life impacts for residents, visitors and waterfront business owners. The agency is prepared to assist WSDOT with the development of a construction air pollution emission control plan to this end.

If you have any questions concerning my comments please contact me or Tom Hudson of my staff at 206.689.4025 or email tomh@pselcanair.org

Sincerely,



Dennis Mc Lerran
Executive Director

jwc

cc: Stu Clark, Ecology
Wayne Grothcer, Port of Seattle
Marina Cofer-Wildsmith, ALAW
Steve Nicholas, Seattle Office of Sustainability and Environment